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Office Memorandum • UNITED STATES GOVERNMENT

TO : Chief, [redacted] Division, TSS
 ATTN : [redacted]
 THRU : Chief, [redacted] DL
 FROM : Acting Deputy Chief for Contracts, [redacted] /OL

DATE: AUG 9 1956

(b)(3)

SUBJECT: Items For Clarification Regarding Balloons Under Contract No. PSC-293-UNV

AUG 16 1956

11/30/56
2/5/56

1. Attached are copies of three letters (one copy of each) which have been received from Winzen Research Inc. These letters indicate problems that if not clarified in the near future will in all probability cause delay in delivery of the items under contract. The first paragraph of Winzen's 19 July letter regarding an answer to their letter of 4 July 1956 has been answered.

2. The Contractor, in the above referenced 19 July letter requests the Visking Corporation testing specifications which include that certain of the Air Force's proposed specifications be used. It appears that they desire those to be substituted in the "GMI Specifications M-23023" for that comparable part of the specifications as to material testing and acceptance.

3. The Contractor requests the use of a fountain type marking brush with self tip and red marking ink in lieu of the black grease crayon markings. The Contractor also requests detail drawings of Drawing No. 230364 as per the attached letter dated 20 July 1956.

4. This office should be advised at an early date whether or not the above testing procedures, the marking method and detailed drawings are to be authorized. Your memorandum requesting Specifications modification, if any, and the drawings are necessary for the clarification of these items by change order.

[redacted]

[redacted]

Distribution:

- Orig - addressee
- 1 - PSC-293-UNV (official)
- 1 - Chief, [redacted] /OL
- 1 - Chrono

OL, [redacted] /647 (7 August 1956)

4/52

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19 July 1956

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[Redacted]
Dear [Redacted]

The balloon material specifications referred to in the contract we currently hold with your organization are approximately two years old. They were drawn up at a time when General Mills, Inc. held an Air Force contract for the testing of balloon materials. Since that time, the testing of the materials has been transferred by the Air Force to the balloon material manufacturer, The Visking Corporation of Terre Haute, Indiana. The Air Force is now in the process of preparing Federal specifications for balloon materials which, however, as of this date are not yet available.

We have, therefore, developed with the Visking Corporation a set of specifications, two copies of which are enclosed herewith. These specifications are, in our opinion, more rigid than those included in your contract, and utilize latest testing techniques and equipment furnished to the Visking Corporation by the U. S. Air Force. We respectfully request your authority to have the material manufacturer conduct the test program in accordance with the enclosed specifications.

Sincerely yours,

WINZEN RESEARCH INC.

Otto C. Winzen, President

OCW:vw

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THE VISKING CORPORATION
p. O. Box 1410
Terre Haute, Indiana

July 13, 1956
(Dic.7-12-56)

Mr. Otto C. Winzen
Winzen Research Inc.
8401 Lyndale Avenue South
Minneapolis 20, Minnesota

Dear Mr. Winzen:

This is with reference to your Order No. B-2330 for 7,500 pounds of .0025" x 56" balloon film tubing which we discussed by phone on July 9th. In the absence of a definite Air Corps specification for .0025" film and in accordance with our telephone conversation, this film will be produced to the following specifications:

Material: The film shall be produced as VISQUEEN, Type A Balloon film from Bakelite DFD 5500 virgin resin with a melt index not higher than 1.1. Melt Index shall be run once on each lot of resin used in producing the order by ASTM Test Method D-1238-52T.

on 20,000 lbs of material which was is greater

Thickness: Average thickness shall be .0025 ± .0003 inches with a minimum of not less than .0022 and a maximum of not over .0029 inches.

Five thickness readings shall be taken at approximately equal intervals on a strip sample cut across the width of each roll. This reading will be made with a Federal gauge graduated in .0001 inches and having a 4 ounce weight and measuring foot 3/16" in diameter.

Flat Width: Flat width of the tubing shall be 56 inches ± 1/2 inch.

One flat width measurement shall be made on each roll. If the first sample does not meet this requirement, two more samples shall be taken and both these must meet the tolerance for the roll to be acceptable.

Length: The film shall be furnished as a continuous roll 230 yards ± 2 yards in length.

Tensile Strength: The film shall meet the following minimum average tensile strength and elongation, as measured by ASTM Method D-882-54T Method C using the inclined plane tester.

	<u>Machine Direction</u>	<u>Transverse Direction</u>
Tensile Strength lbs/sq. in.	2000	1600
Elongation (1%)	250	400

Samples shall be taken once per shift per machine operating. Five strips shall be run in each direction for each sample. The average of these five shall constitute the values which must meet the specification. If a sample does not meet the specification, two more samples shall be taken from the same shift and machine. If these meet the requirement the production from that shift and machine is acceptable. If one of the two resamples does not meet the requirement then all the production from that shift and machine is unacceptable.

Toughness or Impact Test: The film shall meet the following time interval minimum values when tested with the type of apparatus described in Exhibit AFCRC-54-21, 19 August 1954, (pp. 4.4.4.1) and more precisely in proposed revision MIL-F-4640 (USAF), 24 April 1956, (pp. 4.4.3.1).

Center film sample	41.0 milliseconds
Crease sample	39.3

Five test samples containing no visible mechanical damage shall be taken from each fourth roll. Two of these shall be selected so that the ball strikes the right crease, two the left crease and one the center of the film. If any of the samples do not exceed the specified minimum time intervals the roll shall be rejected. All preceeding rolls back to the previous test roll shall be impact tested and passed or rejected individually on the same basis. Each succeeding roll shall be individually tested until a roll passes the test, then normal testing is resumed.

Cold Brittleness Test: Because of the impracticality of running this test on small and irregular orders, this test will not be run. It has been our experience in producing balloon film, that when the specified resin is used together with the VISQUEEN A film process the film generally passes the -68°C cold brittleness test as described in proposed specification MIL-F-4640 (USAF).

Samples and Test Data: Samples shall be furnished with the film shipment as follows:

<u>Sample Size</u>	<u>Frequency</u>
1 yard	each roll
4 yards	each 40th roll

Copies of test data on tests performed according to this specification will be furnished at the time of shipment.

I hope that this information will be adequate for your purposes. If there are any further questions please let me know.

Very truly yours,

THE VISKING CORPORATION

/s/ C. J. B. Thor
C. J. B. THOR, MANAGER
TECHNICAL SERVICES DEPT.

CJBT:bb

cc: Messrs: E. B. Cahn
J. F. Bernard
R. A. Gore
J. Washburn

19 July 1956

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Dear 

With reference to our letter of 4 July 1956, we note that the Addendum No. 1 dated 31 May 1956 has eliminated the problem to which we refer. However, we would still like to have your advice with regard to the third paragraph of our letter of 5 July.

The Addendum No. 1 dated 31 May refers to the use of a black marking crayon for marking certain load tapes. On the basis of our experience in the marking of balloons, we have completely eliminated the use of crayons because they very often damage the balloon fabric because of the pressure necessary in applying the marking and because frequently the crayon has hard inclusions which will tear the material. It has been our practice for several years to use a fountain type marking brush with self tip. We respectfully request your permission to use this device instead of that you specify in Addendum 1. Further, we respectfully request your authorization to use red markings instead of black. In balloon flights under extreme solar radiation, black markings may result in burns causing the balloon fabric to melt. We are including herewith, for your information, samples of the marking we propose to employ.

We shall be looking forward to your comment at an early date.

Sincerely yours,

WINZEN RESEARCH INC.

Otto C. Winzen, President

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20 July 1956

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Dear 

Among the new drawings for the 39 foot balloon, we have difficulty interpreting the Drawing No. 230364 entitled Duct Tie-Off. This drawing shows a portion of the duct, a bushing and a spring clip. Neither of these accessories is in sufficient detail to permit us to interpret the design.

We, therefore, respectfully request that you send us a sketch amplifying dimensions, specifications, and usage of these attachments so that we can provide the desired items.

We would like to reiterate that this drawing was not among those on which we originally submitted our proposal. It is, of course, essential that all of these requests be handled as expeditiously as possible, so that they will not interfere with the delivery schedule.

Thank you for your assistance.

Sincerely yours,

WINZEN RESEARCH INC.

Otto C. Winzen, President

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